WHAT IS CLAIMED IS:

1. A method for inhibiting hyperplasia at a vascular treatment site, said method comprising:

directing vibrational energy at the vascular treatment site, wherein a scaffold structure has been implanted at said site, said scaffold structure being coated with a pharmaceutical agent which is released into the site over time, wherein directing vibrational energy comprises positioning a transducer on a catheter at the vascular treatment site and driving the transducer to emit the vibrational energy at the same time as the scaffold structure is implanted.

2. A method as in claim 1, wherein the vibrational energy is directed at the site at the time of implantation of the scaffold structure at a frequency and thermal index which will inhibit an acute phase of the hyperplasia, wherein the pharmaceutical agent is released over a period of at least one week following implantation to provide a longer term inhibition.

3. A method as in claim 2, wherein the vibrational energy does not cause significant cavitation in a wall of the blood vessel.

4. A method as in claim 2, wherein the vibrational energy causes a temperature rise below 10°C in the wall of the blood vessel.

5. A method as in claim 2, wherein vascular smooth muscle cells at least mostly remain viable but in a quiescent state in the neointimal layer after exposure to the vibrational energy.

6. A method as in claim 2, wherein migration of vascular smooth muscle cells into the neointimal layer is not substantially inhibited.

7. A method as in claim 2, wherein viability of vascular smooth muscle cells in a medial layer of the blood vessel is not significantly inhibited.

8. A method as in claim 2, wherein the vibrational energy has a frequency in the range from 20 kHz to 5MHz.

9. A method as in claim 8, wherein the intensity is in the range from 0.01 W/cm^2 to 100 W/cm^2.

10. A method as in claim 9, wherein the frequency and intensity are selected to produce a mechanical index at the neointimal wall in the range from 0.1 to 50.

11. A method as in claim 2, wherein the vibrational energy is directed against the implantation site with a pulse repetition frequency (PRF) in the range from 10 Hz to 10 kHz.

12. A method as in claim 2, wherein the energy is directed against the implantation site with a duty cycle in the range from 0.1 to 100 percent.

13. A method as in claim 1, wherein the vibrational energy is directed at a mechanical index selected to effect or promote release of the pharmaceutical agent from the implanted scaffold structure.

14. A method as in claim 13, wherein the frequency is in the range from 20 kHz to 5 MHz and the intensity is in the range from 0.01 w/cm^2 to 100 W/cm^2.

15. A method as in claim 1, wherein the vibrational energy is directed at a mechanical index selected to condition the vascular wall to enhance uptake of the pharmaceutical agent.

16. A method as in claim 15, wherein the frequency is in the range from 300 kHz to 3 MHz and the intensity is in the range from 0.1 w/cm^2 to 20 W/cm^2.

17. A method as in claim 1, further comprising directing vibrational energy at the vascular treatment site at least one additional time.

18. A method as in claim 17, wherein vibrational energy is directed at the vascular treatment site at least once at the time of implanting the scaffold structure and at least once one day or longer following implantation.

19. A method as in claim 1, wherein directing vibrational energy comprises externally generating vibrational energy and directing the vibrational energy transcutaneously to the vascular treatment site.

20. A method as in claim 19, wherein externally generating the vibrational energy comprises focusing an externally generated acoustic beam at the vascular treatment site.

21. A method as in claim 1, wherein the pharmaceutical agent comprises an agent selected from the group consisting of:

anti-coagulants (heparin, hirudin, GpIIB/IIIA inhibitors), anti-proliferation agents (paclitaxol, nitric oxide), anti-inflammatory agents (dexamethasone, methylprednisolone), antibiotics (rapamyacin) and anti-oxidants (probucol).

22. A method as in claim 1, wherein the pharmaceutical agent comprises a nucleic acid sequence.

23. A method as in claim 22, wherein the nucleic acid sequence comprises genes expressing VEGF, thymidine kinase, eNOS and antisense oligonucleotides such as c-myc.

24. A method as in claim 1, wherein the pharmaceutical agent is directly layered onto the scaffold structure.

25. A method as in claim 1, wherein the pharmaceutical agent is dispersed in a biodegradable matrix applied to the surface of the scaffold structure.

26. A method as in claim 25, wherein the biodegradable matrix comprises polylactic acid or polyglycolic acid.